

Cyclically antimonotone vector equilibrium problems

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Abstract

In this paper, we extend the notion of cyclic antimonotonicity (known for scalar bifunctions) to the vector case, in order to obtain some results on Ekeland's principle for vector equilibrium problems. We characterize the cyclic antimonotonicity in terms of a suitable approximation from below of the vector bifunction, which allows us to avoid the demanding triangle inequality property, usually required in the literature, when dealing with Ekeland's principle for bifunctions. Furthermore, a result for weak vector equilibria in the absence of convexity assumptions is given, without passing through the existence of approximate solutions.